1915

# Annual Report 1915

University of Rhode Island

BULLETIN OF RHODE ISLAND STATE COLLEGE

VOL. X. NO. 4 FOR FEBRUARY, 1915

# REPORT OF THE BOARD OF MANAGERS

KINGSTON, R. I.

1915

PUBLISHED QUARTERLY BY THE COLLEGE

MAY, AUGUST, NOVEMBER, FEBRUARY

ENTERED AT KINGSTON, RHODE ISLAND, AS SECOND-CLASS MATTER

E. L. FREEMAN COMPANY, STATE PRINTERS, PROVIDENCE

# Rhode Island State College.

## Corporation.

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HON. ROBERT S. BURLINGAME.....NEWPORT COUNTY.
HON. CHARLES ESTES.....BRISTOL COUNTY.
HON. THOMAS G. MATHEWSON.....KENT COUNTY.
HON. B. FRANK ROBINSON.....WASHINGTON COUNTY.
HON. WALTER E. RANGER....STATE COMMISSIONER OF SCHOOLS, *ex officio*.
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# REPORT.

*To His Excellency R. Livingston Beeckman, Governor, and the Honorable General Assembly of the State of Rhode Island and Providence Plantations, at its January Session, 1915:*

I have the honor to submit herewith the Twenty-Seventh Annual Report of the Board of Managers of Rhode Island State College, as required by law.

WALTER E. RANGER,

*President, Board of Managers.*

# REPORT OF THE PRESIDENT OF THE COLLEGE.

*To the Honorable Board of Managers of Rhode Island State College:*

GENTLEMEN:—I submit the following as my report for the calendar year 1914.

## Degrees Bestowed.

At the annual commencement, June 15, the degree of Bachelor of Science was bestowed on twenty-five members of the senior class of that scholastic year; the degree of Master of Science was conferred on two of the graduate students, they having completed the work required therefor; and the first honorary degree ever given by this institution, that of Doctor of Science, was conferred upon Principal David W. Hoyt, of the English High School, Providence. The subject of the address on baccalaureate Sunday was "Traditions," and the commencement address the Tuesday following was delivered by Senator Henry F. Lippitt.

## Attendance.

The attendance for the year 1913–14 was fully treated in my previous report, and I give here the tables, comparative and analytic, of the attendance for the current year 1914–15:

TABLE I.

(Comparative Table showing attendance, 1907 to 1915.)

| | 1907. | 1908. | 1909. | 1910. | 1911. | 1912. | 1913. | 1914. | 1915. |
|---|---|---|---|---|---|---|---|---|---|
| Graduate students | 4 | 3 | 5 | 6 | 3 | 3 | 4 | 4 | 1 |
| Seniors | 9 | 12 | 13 | 17 | 19 | 20 | 23 | 28 | 26 |
| Juniors | 11 | 14 | 20 | 20 | 20 | 27 | 35 | 28 | 46 |
| Sophomores | 16 | 26 | 32 | 24 | 37 | 46 | 44 | 61 | 62 |
| Freshmen | 26 | 36 | 38 | 59 | 63 | 58 | 72 | 87 | 118 |
| Irregulars and specials | 11 | 10 | 15 | 25 | 20 | 28 | 9 | 12 | 2 |
| Total, college | 77 | 101 | 123 | 151 | 162 | 182 | 187 | 220 | 255 |
| Preparatory | 45 | 18 | 28 | .... | .... | .... | .... | .... | .... |
| Two-year courses | .... | 15 | 15 | 29 | 21 | 18 | 34 | 31 | 21 |
| Poultry | 20 | 19 | 19 | 20 | 28 | 28 | 22 | 18 | 9 |
| Summer school, 4 weeks | .... | .... | .... | .... | 39 | 24 | .... | .... | .... |
| Total, non-college | 65 | 52 | 62 | 49 | 88 | 70 | 56 | 49 | 30 |
| Final totals | 142 | 153 | 185 | 200 | 250 | 252 | 243 | 269 | 285 |

It will be noted that the increase over the previous year has been in the freshman class, 36 per cent.; in the college attendance, 16 per cent.; and in the total registration, 6 per cent. There has been a considerable decrease in the attendance on the short courses and on the eight weeks' poultry course. This has been partly due to lack of funds for advertising these courses, and partly to a serious effort to discriminate in admitting to the short courses, admitting only those who had a serious purpose in view, and were sufficiently matured and capable to profit by the work undertaken. It is our desire to make these courses accessible to all earnest workers, whatever their preparation; at the same time, we cannot permit them to become a refuge for the idle, the lazy, or the incompetent.

## TABLE II.

(Showing number of men and of women, number of new and of previous matriculates, and number in the several courses, by classes.)

| | Sex. | | Date of Matriculation. | | Registration in Courses. | | | |
|---|---|---|---|---|---|---|---|---|
| | Men. | Women. | Previous to 1914–15. | For 1914–15. | Agr. | Engin. | Appl. Sci. | Home Econ. |
| Graduates | .... | 1 | 1 | ..... | .... | ..... | 1 | ..... |
| Seniors | 24 | 2 | 26 | ..... | 6 | 13 | 5 | 2 |
| Juniors | 40 | 6 | 44 | 2 | 10 | 29 | 2 | 5 |
| Sophomores | 57 | 5 | 60 | 2 | 22 | 32 | 3 | 5 |
| Freshmen | 96 | 22 | 12 | 106 | 20 | 72 | 7 | 19 |
| Irregular | 2 | ..... | 2 | ..... | 2 | ..... | ..... | ..... |
| Total, college | 219 | 36 | 145 | 110 | 60 | 146 | 18 | 31 |
| Two-year | 21 | ..... | 11 | 10 | 20 | 1 | ..... | ..... |
| Poultry | 9 | ..... | ..... | 9 | 9 | ..... | ..... | ..... |
| Final total | 249 | 36 | 156 | 129 | 89 | 147 | 18 | 31 |

The relative number of men to women in the college work has remained the same for this year as for last year, being for men 86 per cent., and for women 14 per cent. of the total attendance for each year. Among both men and women there has been the same increase over last year of sixteen per cent.

The number of previous matriculates returning this year is 156. Those not returning may be classified as follows:

1. Graduating with degrees—

| | | |
|---|---|---|
| Master of Science | 2 | |
| Bachelor of Science | 25 | |
| | | 27 |
| 2. Completing short, special, or poultry courses | | 30 |
| 3. Not returning for financial or other valid reason | | 44 |
| 4. Dropped from rolls for cause | | 11 |
| 5. Deceased | | 1 |
| Total loss from roll of previous year | | 113 |

I call attention to the fact that the loss under classes 3 and 4, is gradually being reduced. For the year 1912 it was 34 per cent. of the attendance of the previous year. For 1913 it was 21.6 per cent. For the year 1914 it is 20.8 per cent. This loss, too, is very unevenly divided as may thus be seen:

The class of 1915 lost none.
The class of 1916 lost 22 per cent.
The class of 1917 lost 31 per cent.
The special student list lost 50 per cent.
The short courses lost 52 per cent.

The registration in the agricultural course is 31 per cent., or nearly one-third, of the total number of students; the engineering students, make up 52%, or a little over one-half of the whole number; the applied science course has 6 per cent.; and the home economics course has eleven per cent. of the total registration. It is hardly necessary for me to say that this is an excellent showing for the agricultural course in a state in which the rural population is approximately only 3½ per cent. of the whole.

## Home Residence of Students.

The following tables show the home residence of our students for the current year (1914–15). This does not include students of the poultry class:

A. Resident outside the State:

| | | | |
|---|---|---|---|
| China | 1 | Pennsylvania | 2 |
| Connecticut | 13 | Porto Rico | 1 |
| Maine | 1 | Vermont | 2 |
| Massachuetts | 44 | | |
| New Jersey | 4 | Total | 70 |
| New York | 2 | | |

B. (1) Resident in the State (by counties):

| | | | |
|---|---|---|---|
| Bristol | 14 | Providence | 121 |
| Kent | 14 | Washington | 45 |
| Newport | 12 | | |
| | | Total | 206 |

(2) Resident in the State (by towns and cities):

| | | | |
|---|---|---|---|
| Barrington | 5 | North Kingstown | 5 |
| Bristol | 8 | North Smithfield | 1 |
| Burrillville | 5 | Pawtucket | 15 |
| Central Falls | 4 | Portsmouth | 1 |
| Coventry | 1 | Providence | 58 |
| Cranston | 3 | Scituate | 1 |
| Cumberland | 2 | Smithfield | 2 |
| East Greenwich | 3 | South Kingstown | 19 |
| East Providence | 14 | Tiverton | 1 |
| Foster | 2 | Warren | 1 |
| Gloucester | 2 | Warwick | 5 |
| Hopkinton | 4 | West Warwick | 5 |
| Johnston | 1 | Westerly | 17 |
| Little Compton | 1 | Woonsocket | 10 |
| Narragansett | 1 | | |
| Newport | 8 | Total | 206 |
| New Shoreham | 1 | | |

As will be noted, the percentage of the students from Rhode Island is 74.6, or approximately three-fourths. Of the seventy who come from outside the state, fifty-seven are from the neighboring states of Massachusetts and Connecticut. Of the forty-four from Massachusetts, twenty-nine, or approximately two-thirds, are from the two counties to the east of our border, and of these, fifteen, or over one-half, come from the one city of Brockton. Yet it is also noticeable that the county of Essex, in the extreme north of Massachusetts, has a representation of five; the counties of Suffolk (Boston), Middlesex, Hampden and Franklin have two each; Worcester has one; and Lee, in the extreme west of the state, has one.

In Connecticut, the county of New London, adjacent to our western border, sends seven; that of Hartford, sends two; Middlesex, one; New Haven county, one; and Litchfield, in the northwest and Windham in the northeast, one each.

Within our own state the only towns not represented at this time in the attendance are Lincoln, North Providence, West Greenwich, Middletown, Jamestown, Richmond, Charlestown and Exeter.

Since, however, these towns are all rural, it is a source of concern to us that they are not represented in our agricultural and home economics courses. It would seem that much good would come to these communities if once the custom were established in them of sending their young people to the college for work in these departments. Otherwise, however, we have some cause for congratulation on the way the general public is making use of the advantages of public education offered here by the nation and the state. The representation from the various communities all over the state is highly gratifying, considering the fact that the college is located at a distance from the centers of population. The comparatively large attendance from our immediate neighborhood is in part due, it should be noted, to the fact that in order to enjoy the benefits of attendance at the college there is a growing tendency on the part of persons from other localities to establish residence in South Kingstown.

## Freshman Class for 1914-15.

Students admitted with less than fourteen units number twenty-six. Of these, six lacked one-half unit of the requisite fourteen; seven lacked one unit; six lacked one and one-half units; and seven lacked two units. No one was admitted lacking more than two conditions, the remaining seventy having the full fourteen units or more.

The high schools represented for this year and the year preceding are as follows:

| High Schools. | Matriculates in 1913. | Matriculates in 1914. |
|---|---|---|
| Rhode Island: | | |
| Barrington | 2 | 1 |
| Bristol, Colt Memorial | ..... | 5 |
| Burrillville | 5 | 1 |
| Central Falls | 2 | 1 |
| Cranston | 2 | 6 |
| East Greenwich Academy | 1 | 3 |
| East Providence | 4 | 4 |
| Newport, Rogers | 3 | ..... |
| North Kingstown | 2 | 1 |
| Pawtucket | 6 | 4 |

| High Schools. | Matriculates in 1913. | Matriculates in 1914. |
|---|---|---|
| Rhode Island.—Concluded. | | |
| Pentecostal Institute | 1 | ..... |
| Providence, Classical | ..... | 1 |
| English | 1 | 2 |
| Hope Street | 4 | 4 |
| La Salle Academy | 1 | 3 |
| Morris Heights | ..... | 1 |
| Moses Brown | 1 | ..... |
| Technical | 8 | 15 |
| Saint Mary's Academy | 1 | ..... |
| South Kingstown | 3 | 3 |
| Warren | 1 | 1 |
| Westerly | 5 | 8 |
| West Warwick | 2 | 7 |
| Woonsocket | 2 | 1 |
| Connecticut: | | |
| Killingly | 1 | ..... |
| Middletown | ..... | 1 |
| New London, Bulkeley | 4 | ..... |
| Manual Training | 1 | 1 |
| Stonington | ..... | 2 |
| Wallingford | ..... | 1 |
| Wethersfield | 2 | ..... |
| Winsted, Gilbert | ..... | 1 |
| Massachusetts: | | |
| Attleboro | 1 | ..... |
| Bridgewater | 1 | 1 |
| Brockton | 7 | 5 |
| Dorchester | ..... | 1 |
| Fairhaven | ..... | 1 |
| Fall River, B. M. C. Durfee | 1 | 1 |
| Sacred Heart | 1 | ..... |
| Technical | ..... | 1 |
| Groveland | 1 | ..... |
| Leominster | ..... | 1 |
| Lynn, English | ..... | 3 |
| New Bedford | 1 | ..... |
| North Attleboro | ..... | 4 |
| North Easton | ..... | 1 |
| Orange | 2 | ..... |
| Wakefield | ..... | 1 |
| Worcester, Classical | ..... | 1 |

| High Schools. | Matriculates in 1913. | Matriculates in 1914. |
|---|---|---|
| Michigan, Flint | ..... | 1 |
| New Hampshire, Winchester | ..... | 1 |
| New Jersey: | | |
| Montclair | ..... | 1 |
| Perth Amboy | 1 | ..... |
| Roselle Park | ..... | 1 |
| New York: | | |
| College City Preparatory | 1 | ..... |
| Commerce | 1 | ..... |
| Brooklyn, Erasmus Hall | ..... | 1 |
| Porto Rico, San Juan | ..... | 1 |
| Vermont, Beman Academy | 2 | ..... |

The average age of the freshmen for the current year at their entrance in September was eighteen years, six months and fifteen days. The youngest was sixteen years, two months and fourteen days old. Four were under seventeen, sixteen were between seventeen and eighteen, and the remainder were eighteen or over.

Of the parents of these freshman students, eleven are members of the traditional professions, four are retired business men, twenty-seven are tradesmen, twelve are farmers, seven are salesmen, thirteen are business managers, twenty-seven are skilled mechanics.

## Finances.

The facts given so far in regard to the attendance seem to show a fairly prosperous condition. It may, I think, be claimed without undue positiveness that the college has won a recognized and honorable position in the educational system of the state, that it has demonstrated that it has a definite and organic function in the body politic, and that it is performing that function with a degree of efficiency sufficient to attract and hold the patronage of increasing numbers of citizens throughout the state. Increase of attendance, however, brings increased responsibility and increased needs; and it is to these increased needs that I would invite your earnest attention at this time.

In the report of last year I pointed out the fact that our expenses had exceeded our income for the year; and the report of the treasurer showed a deficit in the current fund of $7,480.56. At that time I thought it barely possible that we might by rigid retrenchment during the next year make good a part of this deficit, especially as your Honorable Body had voted to ask the General Assembly for certain help which would have greatly relieved our straitened conditions. But I did not then foresee the somewhat phenomenal increase in our present freshman class; and we were disappointed in the help we expected from the General Assembly. We have, nevertheless, earnestly striven during the year to keep down our expenses and in this endeavor we have had the loyal coöperation of all, teachers and students alike.

Notwithstanding our best efforts, the year's reports show not only no reduction of the deficit, but also an addition of $1,300. And this much has been accomplished only by leaving undone things, such for instance, as painting, road-work, repairs and the employment of additional instructors that cannot be omitted another year without serious depreciation in the property of the state, great impairment of the efficiency of the college work, and risk to the health of the community. Students have made requests for additional bathroom facilities, for the renovating of dormitory rooms, for aid in athletics; teachers have asked for additional instructional help, for the replacing of worn out furniture, for instructional apparatus, for the modest enlargement of cramped quarters or equipment; all of which had to be denied, not because the requests were unreasonable, not because they were not recognized as quite essential, but because there was no money to pay for them. The publicity work of the college has been practically suppressed; new developments of departmental work have been left unprosecuted; emergencies, like the giving out of the boiler at the pumphouse requiring the expenditure of three hundred dollars, have proved seriously embarrassing because of the absence of any reserve fund. In the poultry department, for instance, where Rhode Island has been the pioneer in development, while Maine, Massachusetts and Connecticut have been making rapid enlargements in their plants, we had planned an addition of five or six hundred dollars per year for a few years. But this, too, had to be stopped because there were no funds.

To sum up, it would have required at least five thousand dollars additional during the past year to keep the college up to its normal

efficiency without reckoning with any new demands and without attempting to make good any of the deficit accumulated during the previous two years. Furthermore, it is fairly to be presumed that the entering class of the current year will be somewhat larger than that of last year unless we take measures to prevent it. Your Board, therefore, looking to present necessities as well as to those of the immediate future, and having in mind at the same time the repayment of the deficit at present existing, has voted to ask for the addition of ten thousand dollars to the yearly maintenance fund. While Massachusetts Agricultural College with its six hundred and ten students is at this time asking for a maintenance fund from the state of $313,300 in addition to special appropriations for new buildings and equipment of $270,000, it does not seem unreasonable for this college with nearly half as many students (two hundred and seventy-six) to ask for a maintenance fund of approximately one-eighth of that amount. Frankly, unless the additional income asked for is granted, the college must inevitably recede from the position so far gained.

I would call especial attention to the fact that this is the first time in nine years that a real increase in the maintenance fund has been asked for; if one considers the extension and repair fund as a part of the maintenance money. The subjoined table will show what I mean:

| | 1906. | 1907. | 1908. | 1909. | 1910. | 1911. | 1912. | 1913. | 1914. |
|---|---|---|---|---|---|---|---|---|---|
| State Maintenance | $15,000 | $25,000 | $25,000 00 | $25,000 | $25,000 | $25,000 | $25,000 | $30,000 | $30,000 |
| Additional Maintenance for Year Indicated | 10,000 | ..... | ..... | * | ..... | ..... | ‡ | ..... | ..... |
| Repairs and Extension Fund | 5,500 | 3,639 | 5,858 05 | † | 5,000 | 5,000 | † | ..... | ..... |
| Total from State for Maintenance | $30,500 | $28,639 | $30,858 05 | $25,000 | $30,000 | $30,000 | $25,000 | $30,000 | $30,000 |
| U. S. Morrill Fund, 1862 | 2,500 | 2,500 | 2,500 00 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 | 2,500 |
| U. S. Morrill Fund, 1890 | 25,000 | 25,000 | 25,000 00 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| U. S. Nelson Act, 1907 | ..... | 5,000 | 10,000 00 | 15,000 | 20,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| Total from U. S. for Maintenance | $27,500 | $32,500 | $37,500 00 | $42,500 | $47,500 | $52,500 | $52,500 | $52,500 | $52,500 |
| Total from United States and State | $58,000 | $61,139 | $68,358 05 | $67,500 | $77,500 | $82,500 | $77,500 | $82,500 | $82,500 |
| Student Registration | 122 | 134 | 166 | 180 | 183 | 200 | 221 | 251 | 276 |

*Dormitory built. †Repair and extension fund omitted. ‡Science Hall built.

It will be noted that the state maintenance fund as a whole has remained fairly stationary, at $30,000. Twice, only, has the repair and extension item been omitted and each time during a year when the college was concentrating on a request for a new building. In 1909 a small emergency reserve was drawn upon to the extent of $3,855.97 to offset this loss; and in the year 1912, the same fund was exhausted, the draft upon it being $3,312.02, and a current fund deficit created of $3,108.13. During the year 1913, although the five-thousand dollar repair and extension fund appears in the maintenance fund increased by that amount, still the expenses exceeded the income by $4,372.43, making a total current fund deficit, as reported at that time, of $7,480.56. The year 1914, as already stated, has increased this deficit to $8,799.61.

The question will naturally arise, how could the steady increase in number of students have taken place, while the state fund has remained stationary? The explanation is readily found in the increase of the funds from the national government by five thousand dollars each year from 1907 to 1911. While state funds and national funds are not interchangeable, the application of national funds being limited to apparatus and instruction in certain subjects, yet the increase in national funds has enabled us to shift burdens from State to national funds, so that the increase in maintenance expense could be borne by the State funds.

In brief the situation may be stated as follows:

| | |
|---|---|
| Enlargement of work as represented by attendance (nine years) | 126% |
| Increase in State maintenance | 00% |
| Increase in national funds | 90% |
| Increase in combined funds | 42% |

Items of increase in expense: Fuel, 45 per cent.; salaries, 98.8 per cent.; printing, stationery, etc., 181 per cent.; labor, 60 per cent.; rents, 1970 per cent.; stock and material, 100 per cent.; traveling, 247 per cent.

## Additional General Equipment Asked For.

Your Board caused to be introduced into the General Assembly of 1914 a resolution calling for an appropriation of $20,000, in part to supply certain general needs of the college community. Of the items included in that resolution only one was granted. These needs, however, still remain with us in accentuated form, and we are com-

pelled to present them again, with two additions. The items are as follows:

| | | |
|---|---|---|
| 1. | Sewage-disposal plant for the college | $8,000 |
| 2. | Enlargement of water supply | 1,500 |
| 3. | Enlargement of kitchen | 1,500 |
| 4. | New gas machine | 1,500 |
| 5. | Cement walks, road renewals, grading, etc | 2,500 |
| 6. | Museum cases | 1,000 |

As to these needs the following facts may be cited:

1. The college has never had any satisfactory arrangement for the disposal of its sewage. Laterals collect the sewage from the various buildings and convey it to a main sewer which empties on the hillside some three hundred yards to the west of the quadrangle. Thence it flows over the surface of the ground to the brook at the bottom of the hill. With the increase of the college population to over three hundred within a small area, the conditions have become menacing, and the odor from the hillside is at times quite perceptible on the quadrangle. Neighboring property-owners would be quite within their rights in making complaint against the college for maintaining unsanitary conditions. These conditions have been condemned by every visiting Board whose attention has been called to the matter, and by every sanitary authority consulted. It is not to the credit of the State to allow such conditions on its property. Subjoined is the plan recommended for remedying them.

| | |
|---|---|
| Septic tanks, two | $1,777 00 |
| One Miller automatic flush tank and chamber | 202 25 |
| One double contact bed | 1,502 00 |
| One double filter bed | 2,401 00 |
| One sludge bed | 710 00 |
| By-passes and cutouts | 197 75 |
| Drains | 26 00 |
| Allowed for unforeseen contingencies | 1,184 00 |
| | $8,000 00 |

2. Water Supply. The present water supply is wholly inadequate for present needs. For long periods it is necessary to shut off water even from some of the sanitary conveniences and to prevent the washing of vehicles. In an emergency like fire we should at such times be practically helpless. The water system was planned and

constructed some twenty years ago for a community of some one hundred people. It now has to meet the needs of between three hundred and four hundred people. It is furthermore enormously expensive to operate under the increased demands. It is estimated that with the proposed changes and additions a yearly saving of six hundred dollars could be effected on the present cost of operation.

To provide the necessary supply it is proposed to sink an additional well on the hill, to install an additional motor-driven pump and to readjust the layout of piping. The depth of the new well is entirely problematical, of course. It might be necessary to go down more than two hundred feet; but the subjoined estimate is made with this depth as the outside limit.

| | |
|---|---|
| Well, 200 ft., at $4 per foot | $800 00 |
| Triplex pump, 5″ x 8″ | 318 00 |
| Motor and transformer | 130 00 |
| Moving present steam pump; installation of both pumps; readjustment of pipe lines, estimated | 250 00 |
| | $1,498 00 |

3. Enlargement of Kitchen. The present kitchen was built and equipped to supply one dining-room accommodating one hundred and fifty people. We are now supplying two dining-rooms and feeding some 275 people. We have no storage rooms adequate to take care of supplies for so large a number of people, and so supplies of various kinds are kept partly in the kitchen and partly in one of the dining-rooms,—a practice neither tidy, economic nor sanitary. The serving in such crowded quarters is not satisfactory. Fortunately, enlargement in this case is neither difficult nor expensive. In the basement below is ample space, and we need only to finish it up, to transfer to it a part of the present equipment, and to install a few additional pieces. In more ways than one, economy in operation will be thus effected; but more important still are the sanitary considerations involved,—the increased security against food-infection.

It is proposed,

| | | |
|---|---|---|
| 1. | To construct bake-room, store-room and vegetable room in basement (cement floor, lathing and plastering partitions, with doorways and windows) | $460 00 |
| 2. | To take down and rebuild stairway and passage | 73 00 |
| 3. | To cement floor under kitchen and rebuild coal-bins | 190 00 |
| 4. | To repair, remove and install bake-oven | 112 00 |

| | | |
|---|---|---|
| 5. | To purchase and install dumb-waiter | $175 00 |
| 6. | To build drains in basement and install sinks | 120 00 |
| 7. | To buy and install two ten-gallon steam kettles | 135 00 |
| 8. | To buy and install one vegetable steamer | 40 00 |
| 9. | To build accessories | 195 00 |
| | | $1,500 00 |

4. New Gas Machine. The machine for vaporizing gasolene and forcing the vapor into the laboratories in the various buildings has been in use for some eighteen or twenty years. Last spring it failed to function satisfactorily. An expert from the factory was called to examine it and he reported that it was worn out and could not be repaired. This gas is necessary both for experimental and instructional laboratory purposes. The cost of a new machine is fifteen hundred dollars.

5. The roads through and around the institution are at the present time almost impassable. A cement walk to Science Hall is imperatively necessary. No building on the place can be kept clean with mud constantly carried in on the feet in passing to and from this important building. The grading around this building has never been done, nor that over the sites of old buildings removed. Hence, the need for the following items:

| | | |
|---|---|---|
| (a) | 4,320 feet of road to be renewed with gravel | $1,094 28 |
| (b) | Sewage connections and catch-basins on greenhouse road | 110 44 |
| (c) | Sewage connections and catch-basins on East Hall road. | 53 48 |
| (d) | 500 feet of cement walk, four feet wide | 400 00 |
| (d) | Sewage connections and catch-basins around Taft laboratory and toward horse-barn | 185 30 |
| (f) | Grading at Science Hall | 500 00 |
| (g) | Grading at old chemical laboratory, botanical laboratory and power-house | 146 50 |
| | | $2,490 00 |

6. As the property of the general museum to be installed in Science Hall, there is a large and fine collection of native birds useful in instructing students, but not now accessible, and moreover now deteriorating rather rapidly for want of preservative glass cases. To provide these cases we have asked for $1,000.00.

III. Additions and enlargements for agricultural teaching. The agricultural teaching of the institution has always been lamely

equipped. Beginning at the foundation in the sciences, we have sought in the science building to provide adequate provision for efficient modern teaching proportionate in size to the size of the State. We are now asking provision for teaching the applications of these sciences to the vocation of agriculture itself. To this end there are needed the following items:

| | | |
|---|---|---|
| 1. | An additional silo, to provide additional silage for cattle. | $500 00 |
| 2. | (a) Addition to dairy; building new shed for boiler to furnish steam to dairy laboratory..... | 500 00 |
| | (b) Addition to quarters for farm laborers..... | 200 00 |
| | (c) Paddocks (3), one for swine, two for dairy cattle.. | 500 00 |
| | (d) Conveying water to new paddocks..... | 100 00 |
| | Total..... | $1,800 00 |

3. Land for Farm. The total amount of land owned by the college is 169½ acres. It is divided as to use as follows:

| | | |
|---|---|---|
| Quadrangle, adjacent grounds for building sites..... | 34 | acres |
| Roads..... | 6 | " |
| Experiment station plots..... | 37 | " |
| Pasture, cattle paddocks, etc..... | 16½ | " |
| Poultry plant..... | 13 | " |
| Orchards and gardens..... | 17 | " |
| Arboretum..... | 6 | " |
| Woods and waste land..... | 20 | " |
| *Land used for farm crops*..... | 20 | " |
| | 169½ | " |

This twenty acres of land available for actual farm practice, if it were located in a compact body, would be absurdly small for teaching and illustrating to sixty or more students the principles of farm management and administration; but, as a matter of fact, these twenty acres are scattered in patches and left-over lots ranging from two to six acres and separated from each other, in some cases, by a distance of nearly a mile. Under such conditions economic farming as a business becomes out of the question. The average farm in New England has 104.4 acres. By comparison with our twenty acres, let me point out that New Hampshire College at Durham has a separate farm of three hundred and eighty acres. The University of Maine, at Orono, and the Massachusetts Agricultural College at Amherst own each seven hundred acres, and the Connecticut College

at Storrs has seven hundred and six acres. Every Board of Visitors and every farmer familiar with the conditions here has insisted that we should have more land. We are now compelled to rent land both for experimental purposes (for which on account of the long time required for experiments rented land is unfitted) and also for the maintenance of our stock. The time to buy additional land is now (1) because of favorable local conditions, (2) for the sake of economy in administration. For this purpose is asked the sum of $10,000.00.

4. Purchase of Cattle. For instructional purposes and for leading and aiding in improving the grade of cattle kept by farmers throughout the State, money should be expended here from time to time in buying choice specimens of new strains of cattle. At the present time and for several years past no money has been available for this purpose, with the result that our cattle do not interest either student or visitor as they should be capable of doing. The situation has been of long standing and should be remedied. The sum asked for this purpose is $4,000.00.

5. Agricultural Building. Just as the basal scientific departments, a few years ago and until the erection of Science Hall, were housed in mere make-shifts, inadequate for instructional purposes, not consonant with the dignity of the State and extremely expensive to maintain, so still the vocational departments of agronomy, animal husbandry, dairying, horticulture, and poultry, are scattered and separated in chance quarters wherever it has been possible to find place for them. The system, if system it can be called, is inefficient, undignified and uneconomic. To remedy it we are urging the construction of an agricultural building that shall do for these vocational departments what the Science building has done for the science departments. The project is approved and supported by all the organized agricultural interests of the State. The State Grange, for instance, at its last meeting, December 9–11, 1914, unanimously adopted the following resolution:

*Resolved*, That the State Grange rejoices in the enlarged activity of the various departments of Rhode Island State College and especially of the extension service; that it hears with profound satisfaction of the large and steady increase in attendance; that it recognizes the accumulated need at the college for immediate enlargement and additions as to sewage disposal, boarding facilities, water supply, etc.; and the acquisition of land, a new agricultural building and sub-

sidiary equipment for the agricultural departments, in some degree comparable with the agricultural departments of the other New England colleges.

*Resolved*, further, that a special committee of three be appointed to visit the college, ascertain in detail its immediate needs and coöperate with the Board of Management to bring to bear the influence of all the granges in securing from the General Assembly adequate and necessary funds.

A committee was accordingly appointed, and that committee has visited the college. The committee consisted of C. P. Cornell, of Providence; Sayles B. Steere, of Chepachet; and William A. Peckham, of Tiverton.

The floor-plans provide for a building 106 x 47 feet, three stories with basement, or almost exactly the size of the present East Hall in cubic feet. As proposed, the basement will be occupied partly by the animal husbandry department and partly by the farm management work in farm machinery as follows: A stock-judging room with floor-space for bringing in cattle and horses, a meat room for cutting up meat, a lecture and bench room, and a farm machinery laboratory. On the first floor will be placed the dairy department, with a butter-room, bottling-room, refrigerator, office, two storerooms, a large and a small lecture room, and a milk-testing room. The second story will be taken up with the horticultural work in part, as follows: a drawing room, a pomological laboratory with instrument room, a horticultural office, an animal husbandry office and lecture-room, pedigree and register room, and an office and lecture room for the poultry department. On the third story will be an assembly room for general agricultural lectures, an agronomy office and recitation room, a soils laboratory, and a farm crops laboratory.

Comparing East Hall with the character and dimensions of this proposed building, it would seem that the sum of $50,000 should cover construction and furnishing. It will be seen that the inside construction will not be nearly so costly as that of East Hall, and it should be remembered that the present is the most favorable time in many years for building at low cost.

## Report of the Board of Visitors.

On page 33, of this report will be found the preliminary report of the Board of Visitors. It should be read in connection with the requests for funds contained in the foregoing statements. For the year 1914 and also for the current year of 1915 the Board consists of Superintendent W. A. Brady, of Wakefield; Mr. Herbert W. Rice,

of Providence; Principal E. S. Hosmer, of Pawtucket; Mr. William H. Hervey, of Oaklawn; Dr. R. E. Darrah, of Newport; (Mrs. George H.) Lula A. Fowler, of Pawtucket; and (Mrs. C. E.) Mabel C. Blake, of Barrington.

## Changes in Faculty.

Only two changes in the faculty have taken place during the year. In the department of physics, Assistant Professor Paul Cloke, E. E., resigned to take a position at the Clarkson College of Technology, at Potsdam, N. Y. His place was filled by the appointment of Assistant Professor C. L. Coggins, instructor in physics at the Stevens Institute of Technology, Hoboken, N. J. Professor Coggins is an alumnus of Rhode Island State College, having been graduated in 1907. Since that time he has been employed at Dartmouth College and at Stevens Institute as before stated.

The other change was caused by the resignation of Instructor R. R. Martel of the civil engineering department to take a better position. His place was filled by the appointment of Walter S. Merrill of the University of Maine, 1910.

One addition has been made, viz.: in the botanical department; necessitated by the increase of work in this department. Mr. George B. Spencer of Syracuse University, 1914, was appointed instructor to take care of this increase.

## Extension Department.

Since my last report, the Smith-Lever bill in Congress has been passed and through it the State has received $10,000 to be used in demonstration in agriculture and home economics under the joint control of the college and the Department of Agriculture at Washington. The extension department has been re-organized under the name of the extension service of Rhode Island State College, with the following personnel:

Director.....A. E. Stene.
Junior Extension Work, Boys' and Girls' Clubs in Coöperation with U. S. Department of Agriculture.....E. K. Thomas.
Farm Management, Agricultural Organization in Coöperation with U. S. Department of Agriculture.....David Elder.
Agronomy Demonstration.....M. A. Hawkins.
Home Economics.....Jennie E. Kœhler.

Respectfully submitted,

HOWARD EDWARDS,

*President.*

# TWENTY-SIXTH AND TWENTY-SEVENTH REPORT

of the

# Director of the Agricultural Experiment Station

of the

# Rhode Island State College.

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To Howard Edwards, *President*,
*Rhode Island State College.*

Sir:—I have the honor to report herewith the work of the experiment station since June 30, 1912. That date ended the year covered by the Twenty-Fifth Annual Report which was printed separately as Part II instead of being included, as now, in your report to the Board of Managers. Through no fault of this institution, the record of the work of the station was not printed in the report last year.

For the sake of brevity reference to only the main lines of work can be made, and these can be indicated usually only by a brief statement of some information which they seem to afford. It should be understood clearly that in some cases indications which appear during the progress of experiments are not substantiated by further work, and observations which are made at this time should be considered from that standpoint.

In an attempt to combat the blackhead disease of turkeys, modified feeding methods have been continued especially in connection with the sour milk constituents of the ration. The use of drugs has been postponed temporarily.

Immunity to newly-acquired strains of the fowl cholera bacterium has been secured in rabbits by inoculation with an avirulent culture of the organism. In certain cases when complete immunity was not attained it was found to be only necessary to inoculate subsequently with a certain virulent culture in order to insure success. It has been demonstrated that immune mothers transmit to their offspring a high degree of resistance to virulent cultures.

The securing of data relating to the nature and amount of bacteria infection of fresh eggs from well-kept and apparently healthy hens has been completed. In connection with inheritance of egg-weight in case of hens, the selection is being continued in two directions, plus and minus, from an arbitrary weight of 58 grams.

By showing that the White Leghorn fowl commonly carries factors for black pigmentation, a basis has been secured for an explanation of the method of inheritance of black when certain pure white races of poultry have been mated together. The rabbit-breeding experiment has given evidence against the idea of unit-character constancy, and in favor of a cumulative effect in case of selection for increased pigmentation.

Upon the completion of the feeding experiments with young chicks very little difference was found to have existed in the value of a given amount of protein in cotton-seed meal and in beef scrap as regards either the gain in weight or the proportion of nitrogen recovered in the cooked chicks. The chicks showed a preference, however, for the mash containing the beef scrap.

The value of the ear-to-row method of selection, and of detasseling undesirable plants is being determined with White Cap corn.

The growth of swamp blueberries is being continued at the request of the United States Department of Agriculture in order that comparisons may be made between plants furnished by the department and those which had been propagated previously by this station.

In 1913 buckwheat yielded between 4 and 35 bushels of grain, depending only upon which of fifteen crop plants had been grown during the two previous years. Similarly, three years before, onions yielded from 13 to 412 bushels.

Northern grown seed potatoes of the Norcross variety have continued to be superior to home-grown "seed." An improvement of the latter is being attempted by hill selection and by variations in the time of planting and harvesting. It has been shown that early harvested tubers grown in comparison with late harvested larger tubers, gave a larger yield when cut in the same-sized pieces, but when cut so that the pieces contained an equal number of eyes there was not much difference in yield. The chemical variation in "seed" of different quality is being studied.

When applied in amounts sufficient to neutralize the same degree of acidity, about the same crop yields have been obtained with calcium limestone, magnesian limestone, and the same after burning and

hydrating, or slaking with water, all being in a finely divided condition. The efficiency of limestone siftings which did not pass an 80-mesh sieve, however, decreased with increasing size.

The permanent crop rotations have supplied additional data on the following points, namely; the value of clover, stable manure versus fertilizer chemicals, the most economical number of grass crops in rotation with corn and potatoes, whether corn or potatoes had better follow the grass, and fall versus spring plowing.

In connection with the continual growth of corn the cumulative effect of a nitrogen-gathering legume cover-crop continues much superior to that of rye.

The after-effects of different sources of phosphorus having been observed since 1902 on the phosphate experiment, applications of the same were begun again in 1914, with modifications to make a comparison possible between raw and acidulated phosphate rock on an equal-cost basis.

The lawn grass plats continued to present different appearances where continually top-dressed with fertilizer chemicals, depending upon whether the residues from the same exerted an acid or an alkaline effect. In the latter case not only the growth of certain grasses was promoted, but also certain undesirable weeds.

Even the third year of cropping an ordinary cultivated soil, using a potash-free fertilizer mixture, did not result in any less crop than where different potash salts were used. In another instance, where potash had been depleted more thoroughly, the addition of sodium in both common salt and soda ash, increased the yield of the crops.

An experiment with carnations in the greenhouse is being conducted to determine the effect of modified soil conditions on the nature of the growth.

Much chemical and pot-culture work has been carried on to throw light upon the more scientific questions arising through the interrelation of crop plants and the media in which they grow.

The inspection of fertilizers and feeding-stuffs sold in the State has been conducted as usual. The expense is provided for by analysis or license fees paid by the manufacturers of the fertilizers, and by a small State appropriation in case of the feeds.

The detailed weather records are published by the Climatological Service of the United States Weather Bureau; the records for each month are included in the report for District No. 1, North Atlantic States, and the annual summary in the report for the New England

section. A light frost occurred on October 8, 1912, and June 10, 1913; there were killing frosts on October 16, 1912; May 11, 1913; September 14, 1913; May 12, 1914, and September 28, 1914. Droughty conditions existed at Kingston in 1913 for a month previous to July 10, only a little rain having fallen about June 20; and again in September, during which there was only .69 inches of rainfall previous to the eighteenth. In 1914, it was dry during the latter half of May and June and again during most of September.

The publications of the station since June 30, 1912, are as follows:

Coöperative experiments in alfalfa culture, Bul. 152, Oct., 1912, pp. 86.

The effect of sodium manuring on the composition of plants, Bul. 153, March, 1913, pp. 32.

The percentage of total phosphorus in flat turnips as influenced by the amount available in soils, Bul. 154, April, 1913, pp. 30.

Studies on inheritance in poultry: I. Constitution of the White Leghorn breed, Bul. 155, June, 1913, pp. 74.

The availability of the nitrogen of cotton-seed meal and beef scrap for chicks, Bul. 156, March, 1914, pp. 65.

Studies on fowl cholera: III. The inheritance in rabbits of immunity to infection with the bacterium of fowl choleras, Bul. 157, April, 1914, pp. 25.

Studies on inheritance in pigeons: I. Hereditary relations of the principal colors, Bul. 158, May, 1914, pp. 71.

Studies on fowl choleras: IV. The reciprocal relations of virulent and avirulent cultures in active immunization, Bul. 159, June, 1914, pp. 23.

The comparative effect on different kinds of plants of liming an acid soil, Bul. 160, Oct., 1914, pp. 44, with Appendix, pp. 9.

Studies on inheritance in poultry: II. The factor for black pigmentation in the White Leghorn breed, Bul. 161, Dec., 1914, pp. 13.

Inspection bulletins containing the analyses of commercial fertilizers for September and October, 1912, for June, September and October, 1913, and 1914, pp. 76.

Inspection bulletins containing the analyses of commercial feeding stuffs for May, 1913 and 1914, pp. 32.

Twenty-fifth annual report for the year ended June 30, 1912, pp. 68, with Index VI.

In addition to the above, which have been published by the station, the following papers have been printed elsewhere:

Capsule-formation by the bacteria of hæmorrhagic septicæmia, Centbl. Bakt. (etc.), Abt. 1, Orig., 1913, 72, 478–80.

The feeding of turkeys with special reference to the blackhead disease, Extension Bul., R. I. State College, Feb., 1913, pp. 4.

The effect of sodium manures on the percentage of sugar in certain plants, Proc. Eighth Internat. Cong. Appl. Chem., 1912, 15, 129–35.

On feeding experiments to determine the availability of protein, Proc. Soc. Prom. Agri. Sci., 1913.

Experimental efforts to retain the freshness in cut rose blooms, Science, Aug., 1914.

The potato, Extension Bul., R. I. State College, Feb., 1914, pp. 4.

The English rabbit and the question of Mendelian unit-character constancy. (Joint publication of the Laboratory of Genetics of the Bussey Inst., Harvard Univ.) Amer. Naturalist, Vol. XLIX, Jan., 1915.

The changes in the station staff are recorded under resignations and appointments. In many cases they have simply involved a transference within the institution.

### Resignations.

George E. Adams, Horticulturist, Sept., 1912.
Frederick S. Hammett, Asst. Chemist, Sept., 1912.
Eleanor E. Gould, Stenographer, Oct., 1912.
George E. Merkle, Asst. Agron., Nov., 1912.
Eva Barns, Stenographer and Accountant, Dec., 1912.
H. J. Wheeler, Director and Agronomist, Dec., 1912.
J. E. Seabright, Asst. Chemist, Jan., 1913.
F. J. Godin, Assistant, Floriculture, July, 1913.
Leonard A. Maynard, Asst. Chemist, Oct., 1913.
Robert A. Lichtenthaeler, Asst. Chemist, Oct., 1914.
Carroll H. Magoon, Poultryman, Dec., 1914.

### Appointments.

George E. Merkle, Mass. Agr. Coll., Asst. Agron., Aug., 1912; Asst. Chem., Nov., 1912.
Leonard A. Maynard, Wesleyan, Asst. Chem., Sept., 1912.
Dorothy W. Caldwell, R. I. State Coll., Asst. Biol., Sept., 1912.
H. Alida Birch, Stenographer, Dec., 1912.
Burt L. Hartwell, Director, Dec., 1912; Agronomist, Feb., 1913.
Laurence S. Crosby, Harvard, Asst. Chem., July, 1913.
Walter C. Irons, R. I. State Coll., Asst. Agron., March, 1914.
Lewis P. Howard, Mass. Agr. Coll., Asst. Chem., July, 1914.
Marguerite W. Elkins, R. I. State Coll., Asst. Biol., Oct., 1914.

Respectfully submitted,

BURT L. HARTWELL.

# TREASURER'S REPORT.

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R. S. Burlingame, Treasurer, *in account with the different funds of* Rhode Island State College, *for the year ending December 31, 1914, as follows:*

## Morrill Fund of 1890 and Nelson Act of 1907.

| 1914. | | Cr. | Dr. |
|---|---|---|---|
| Jan. 1. | To balance from last year | | $28,695 99 |
| July 1. | To United States warrant for year ending June 30, 1915 | | 50,000 00 |
| Dec. 31. | By instruction | $42,615 37 | |
| | Textbooks and reference books | 1,051 53 | |
| | Apparatus | 4,210 25 | |
| | Tools and machinery | 868 90 | |
| | Live stock | 161 60 | |
| | Feed | 2,311 81 | |
| | Stock and material | 3,426 24 | |
| | Balance on hand | 24,050 29 | |
| | | $78,695 99 | $78,695 99 |

## Morrill Fund of 1862.

| | | | |
|---|---|---|---|
| Jan. 1. | To cash from land-scrip fund | | $2,500 00 |
| Dec. 31. | By instruction | $2,458 90 | |
| | Books for library | 1 35 | |
| | Apparatus | 35 69 | |
| | Stock and material | 4 06 | |
| | | $2,500 00 | $2,500 00 |

## Smith–Lever Fund.

| | | | |
|---|---|---|---|
| July 1. | To United States warrant for year ending June 30, 1915 | | $10,000 00 |
| | By salaries | $2,703 65 | |
| | Postage, telephone, telegraph, freight and express | 94 06 | |
| | Chemical supplies | 4 25 | |
| | Seeds, plants and sundry supplies | 46 77 | |
| | Stationery and printing | 70 46 | |
| | Publications | 191 32 | |
| | Traveling expenses | 794 67 | |
| | Scientific apparatus | 92 91 | |
| | Furniture and fixtures | 93 50 | |
| | Contingent expenses | 1 50 | |
| | Balance on hand | 5,906 91 | |
| | | $10,000 00 | $10,000 00 |

STATE.—MAINTENANCE FUND.

| | | | | |
|---|---|---|---|---|
| Jan. 1. | To State appropriation | | | $30,000 00 |
| Dec. 31. | By salaries | $7,235 08 | | |
| | Labor (janitor, farm, etc.) | 7,537 20 | | |
| | Traveling | 1,120 73 | | |
| | Postage, stationery and printing | 2,353 19 | | |
| | Construction and repairs | 2,536 21 | | |
| | Oil and gasoline | 322 28 | | |
| | Fuel | 5,066 20 | | |
| | Telephone and telegraph | 163 33 | | |
| | Commencement | 329 97 | | |
| | Feed | 781 21 | | |
| | Advertisement in publications | 277 37 | | |
| | Tools and machinery | 198 44 | | |
| | Rental of dormitories and land | 828 28 | | |
| | Stable supplies and auto repairs | 24 75 | | |
| | Furniture | 304 75 | | |
| | Horseshoeing | 71 28 | | |
| | Stock and material | 834 96 | | |
| | Freight and express | 14 77 | | |
| | | $30,000 00 | | $30,000 00 |

STATE.—SCIENCE HALL.

| | | | | |
|---|---|---|---|---|
| Jan. 1. | To balance on hand from last year | | | $3,347 14 |
| Dec. 31. | By erection contract | $13 94 | | |
| | Drainage | 60 | | |
| | Heat and ventilation | 2,601 90 | | |
| | Chemical fittings | 677 50 | | |
| | Electrical wiring | 53 20 | | |
| | | $3,347 14 | | $3,347 14 |

STATE.—SCIENCE HALL EQUIPMENT.

| | | | | |
|---|---|---|---|---|
| Jan. 1. | To balance on hand from last year | | | $3,827 58 |
| Dec. 31. | By power plant equipment | $44 00 | | |
| | Equipment of physics department | 247 95 | | |
| | Equipment of bacteriology department | 1,054 57 | | |
| | Equipment of botany department | 721 05 | | |
| | Equipment of chemistry department | 1,268 39 | | |
| | Equipment of zoölogy department | 477 17 | | |
| | Freight and express | 1 45 | | |
| | Miscellaneous | 13 00 | | |
| | | $3,827 58 | | $3,827 58 |

STATE.—SPECIAL.

| | | | |
|---|---|---|---|
| May 1. | To State appropriation | | $2,500 00 |
| May 31. | By auto trucks | $2,500 00 | |
| | | $2,500 00 | $2,500 00 |

CURRENT FUND.

| | | | |
|---|---|---|---|
| Jan. 1. | To reserve fund | | $2,000 00 |
| | Department sales | | 8,967 58 |
| | Department service | | 1,417 46 |
| | Department fees | | 2,576 68 |
| | Dormitory fees | | 5,664 18 |
| | Tuition | | 1,720 32 |
| | Interest | | 813 80 |
| | Deficit | | 8,777 55 |
| Dec. 31. | By debit balance from last year | $7,480 56 | |
| | Salaries | 4,100 47 | |
| | Traveling | 348 14 | |
| | Postage, stationery and printing | 607 86 | |
| | Construction and repairs | 2,410 16 | |
| | Oil and gasoline | 202 84 | |
| | Fuel | 2,247 09 | |
| | Telephone and telegraph | 107 11 | |
| | Feed | 227 97 | |
| | Freight and express | 457 68 | |
| | Labor (student, janitor, farm, etc.) | 8,635 28 | |
| | Advertising in publications | 531 77 | |
| | Entertainment | 600 51 | |
| | Stock and material | 1,980 13 | |
| | Reserve fund | 2,000 00 | |
| | | $31,937 57 | $31,937 57 |

TRUST FUND.

| | | | |
|---|---|---|---|
| Jan. 1. | To balance on hand from last year | | $2,000 03 |
| | Boarding receipts | | 30,056 52 |
| | Store receipts | | 4,232 77 |
| Dec. 31. | By boarding | $28,741 67 | |
| | Store | 4,519 47 | |
| | Balance on hand | 3,028 18 | |
| | | $36,289 32 | $36,289 32 |

HATCH FUND.—EXPERIMENT STATION.

| | | | |
|---|---|---|---|
| Jan. 1. | To balance on hand from last year | | $1,012 28 |
| | United States check | | 3,750 00 |
| April 1. | United States check | | 3,750 00 |

| | | | | |
|---|---|---|---|---|
| July | 1. | To United States check | | $3,750 00 |
| Oct. | 1. | United States check | | 3,750 00 |
| Dec. | 31. | By salaries | $6,194 98 | |
| | | Labor | 3,268 46 | |
| | | Publications | 1,842 93 | |
| | | Freight and express | 117 16 | |
| | | Postage and stationery | 241 04 | |
| | | Heat, light, water and power | 119 47 | |
| | | Chemical supplies | 7 20 | |
| | | Seeds, plants and sundry supplies | 339 47 | |
| | | Fertilizers | 601 42 | |
| | | Feeding stuffs | 586 50 | |
| | | Library | 734 08 | |
| | | Tools, implements and machinery | 183 89 | |
| | | Furniture and fixtures | 300 12 | |
| | | Scientific apparatus | 16 24 | |
| | | Traveling expenses | 125 18 | |
| | | Contingent expenses | 34 00 | |
| | | Buildings and land | 687 32 | |
| | | Balance on hand | 612 82 | |
| | | | $16,012 28 | $16,012 28 |

ADAMS FUND.—EXPERIMENT STATION.

| | | | | |
|---|---|---|---|---|
| Jan. | 1. | To United States check | | $3,750 00 |
| April | 1. | United States check | | 3,750 00 |
| July | 1. | United States check | | 3,750 00 |
| Oct. | 1. | United States check | | 3,750 00 |
| | | Amount overdrawn | | 880 08 |
| Dec. | 31. | By amount overdrawn in year 1913 | $355 10 | |
| | | Salaries | 8,703 18 | |
| | | Labor | 3,551 03 | |
| | | Postage and stationery | 51 98 | |
| | | Freight and express | 113 42 | |
| | | Heat, light, water and power | 352 52 | |
| | | Chemical supplies | 293 10 | |
| | | Seeds, plants and sundry supplies | 394 25 | |
| | | Feeding stuffs | 1,115 57 | |
| | | Tools, implements and machinery | 415 05 | |
| | | Furniture and fixtures | 48 00 | |
| | | Scientific apparatus | 132 67 | |
| | | Live stock | 137 00 | |
| | | Buildings and land | 217 21 | |
| | | | $15,880 08 | $15,880 08 |

MISCELLANEOUS.—EXPERIMENT STATION.

| | | | | |
|---|---|---|---|---|
| Jan. 1. | To balance on hand from last year | | | $4,317 29 |
| | Department sales | | | 1,789 89 |
| | Department service | | | 37 82 |
| | Interest | | | 182 94 |
| Dec. 31. | By labor | | $7 70 | |
| | Postage and stationery | | 31 28 | |
| | Freight and express | | 12 68 | |
| | Library | | 14 60 | |
| | Tools and machinery | | 16 76 | |
| | Publications | | 226 10 | |
| | Heat, light, water and power | | 7 00 | |
| | Live stock | | 7 50 | |
| | Furniture and fixtures | | 14 95 | |
| | Contingent expenses | | 5 05 | |
| | Seeds, plants and sundry supplies | | 62 00 | |
| | Feeding stuffs | | 293 50 | |
| | Buildings and land | | 80 81 | |
| | Balance on hand | | 5,548 01 | |
| | | | $6,327 94 | $6,327 94 |

I hereby certify that the above is correct and true, and truly represents the details of expenditures for the period and by the institution named.

R. S. BURLINGAME,

*Treasurer.*

This is to certify that we, the undersigned, auditing committee of the Board of Managers of Rhode Island State College, have examined the accounts of R. S. Burlingame, treasurer of the said college, and find the same correct.

THOMAS G. MATHEWSON,
B. F. ROBINSON.

February 5, 1915.

# APPENDIX A.

## Report of the Board of Visitors for the Year 1914.

*To the Board of Managers of Rhode Island State College:*

GENTLEMEN:—The Board of Visitors has the honor to submit the following report on the condition of Rhode Island State College for the year 1914:

Because the personnel of the Board was not completed until late in the year, it has been impracticable to make more than one visit to the college. This allowed the Board opportunity to note only the most crying needs of the institution.

The Board desires to commend the fine work of the school. Its sterling quality is evident by its increased attendance and by the attitude of the professors and students in the class room.

The Board advises that immediate provision be made for proper sewage disposal and for an adequate water supply. The Board is convinced that the present means of sewage disposal is a positive menace to the health of the college community and that the water supply is insufficient for the needs of the college.

The Board favors an enlargement of the kitchen by finishing the basement, the present quarters being too small for the help and the proper storage of meat, butter and milk.

The Board considers that additional land is necessary for the future welfare of the college, and urges that enough land be purchased to meet its growing needs.

The Board is not unfavorable to other needs tabulated by the college authorities, but for lack of time to examine them carefully will not comment upon them.

W. A. BRADY,
H. W. RICE,
E. S. HOSMER,
W. H. HERVEY,
R. E. DARRAH,
LULA A. FOWLER,
MABEL C. BLAKE.

# APPENDIX B.

## Summaries Dealing with Certain Phases of Receipts and Expenditures for the Year Ending June 30, 1914.

### Summary for Year.

| | |
|---|---|
| Balance on hand July 1, 1913 | $60,821 62 |
| Total income during year | 177,742 16 |
| Total | $238,563 78 |
| Total expenditure during year | 225,921 49 |
| Balance on hand June 30, 1914 | $12,642 29 |

### Income.

| | | |
|---|---|---|
| Income from students: | | |
| Tuition fees | $1,523 42 | |
| Matriculation and incidental fees | 2,413 97 | |
| Chemicals and laboratory supplies | 1,097 93 | |
| Dormitory fees | 5,512 64 | |
| Dining hall | 29,708 01 | |
| Store sales | 4,071 56 | |
| | | $44,327 53 |
| Income from State and Nation: | | |
| State—Maintenance appropriation | $30,000 00 | |
| " " " for 1913, but not avaiable then | 5,000 00 | |
| Special | 2,500 00 | |
| Federal—Morrill Act of 1890 and Nelson Amendment of 1907 | 50,000 00 | |
| Morrill Act of 1862 | 2,500 00 | |
| Hatch Act of 1887, Experiment Station. | 15,000 00 | |
| Adams Act of 1906, Experiment Station. | 15,000 00 | |
| | | $120,000 00 |
| Income from other sources: | | |
| Sales and service of departments | $10,284 91 | |
| Interest | 967 37 | |
| Experiment Station—Sales and service | 1,979 54 | |
| Interest | 182 81 | |
| | | $13,414 63 |
| | | $177,742 16 |

| | |
|---|---|
| Receipts from tuition: | |
| Students taking courses of one year or more | 251 |
| Students taking poultry course of six weeks | 18 |
| Total number of students registered | 269 |
| Number of students paying tuition (non-resident in Rhode Island) at rate of $30 per year, 55 | $1,473 42 |
| Number of students paying tuition (non-resident in Rhode Island) at rate of $10 per year, 5 | 50 00 |
| Total amount of tuition | $1,523 42 |

## EXPENDITURES.

| | | |
|---|---|---|
| Expenditures, exclusive of Experiment Station: | | |
| Auto-trucks | $2,500 00 | |
| Advertising, including track meet | 1,048 86 | |
| Apparatus | 10,512 80 | |
| Boarding | 29,075 74 | |
| Books | 898 95 | |
| Commencement | 327 72 | |
| Construction and repairs | 5,981 78 | |
| Dormitory rentals | 1,021 14 | |
| Entertainment | 582 16 | |
| Feed | 3,784 82 | |
| Freight and Express | 632 81 | |
| Fuel | 6,660 53 | |
| Gasoline and oil | 537 00 | |
| Labor (engineers, poultrymen, farm, etc.) | 11,571 29 | |
| Labor (undergraduate) | 7,088 40 | |
| Lectures | 442 91 | |
| Live stock | 469 60 | |
| Postage, stationery and printing | 2,950 35 | |
| Salaries | 54,887 88 | |
| Store | 3,914 04 | |
| Telephone and telegraph | 248 10 | |
| Tools and machinery | 1,651 77 | |
| Traveling | 1,774 89 | |
| Miscellaneous | 5,446 81 | |
| Science Hall construction | 40,232 82 | |
| | | $194,243 17 |
| Expenditures, Experiment Station | 31,678 32 | |
| Total expenditures | | $225,921 49 |

## Summary of Balances on Hand, July 1.

| | 1913. | 1914. |
|---|---|---|
| Morrill Fund of 1862 | $824 64 | ..... |
| Morrill Fund of 1890 | 8,616 69 | ..... |
| State—Maintenance | 3,343 10 | $7,930 45 |
| State—Science Hall | 20,315 41 | ..... |
| State—Science Hall Equipment | 19,917 41 | ..... |
| State—Special | ..... | ..... |
| Current Fund | 1,969 17 | Dr. 2,397 18 |
| Trust Fund | Dr. 63 26 | 726 53 |
| Miscellaneous—Experiment Station | 3,898 46 | 4,382 49 |
| Hatch Fund, Experiment Station | ..... | ..... |
| Adams Fund, Experiment Station | ..... | ..... |
| Reserve Fund | 2,000 00 | 2,000 00 |
| Totals | $60,821 62 | $12,642 29 |